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ABSTRACT

This booklet describes a health education program designed to instruct children in proper health care. The model curriculum for this project consists of three intensive units of study, one each at the fifth-, sixth-, and seventh-grade levels. Each unit is organized around a body system: lungs and respiratory system for the fifth grade, heart and circulatory system for the sixth grade, and brain and nervous system for the seventh grade. Each unit is comprehensive and in-depth, requiring eight to ten weeks for completion. Teachers in charge of this instruction receive intensive training before they start the curriculum. Professionals in the health field assist in the program by coming to the school and teaching the pupils how they operate in their own particular field. The objective of this program is to teach students to understand their bodies and how they function and to guide them in the formation of good health habits. (JD)

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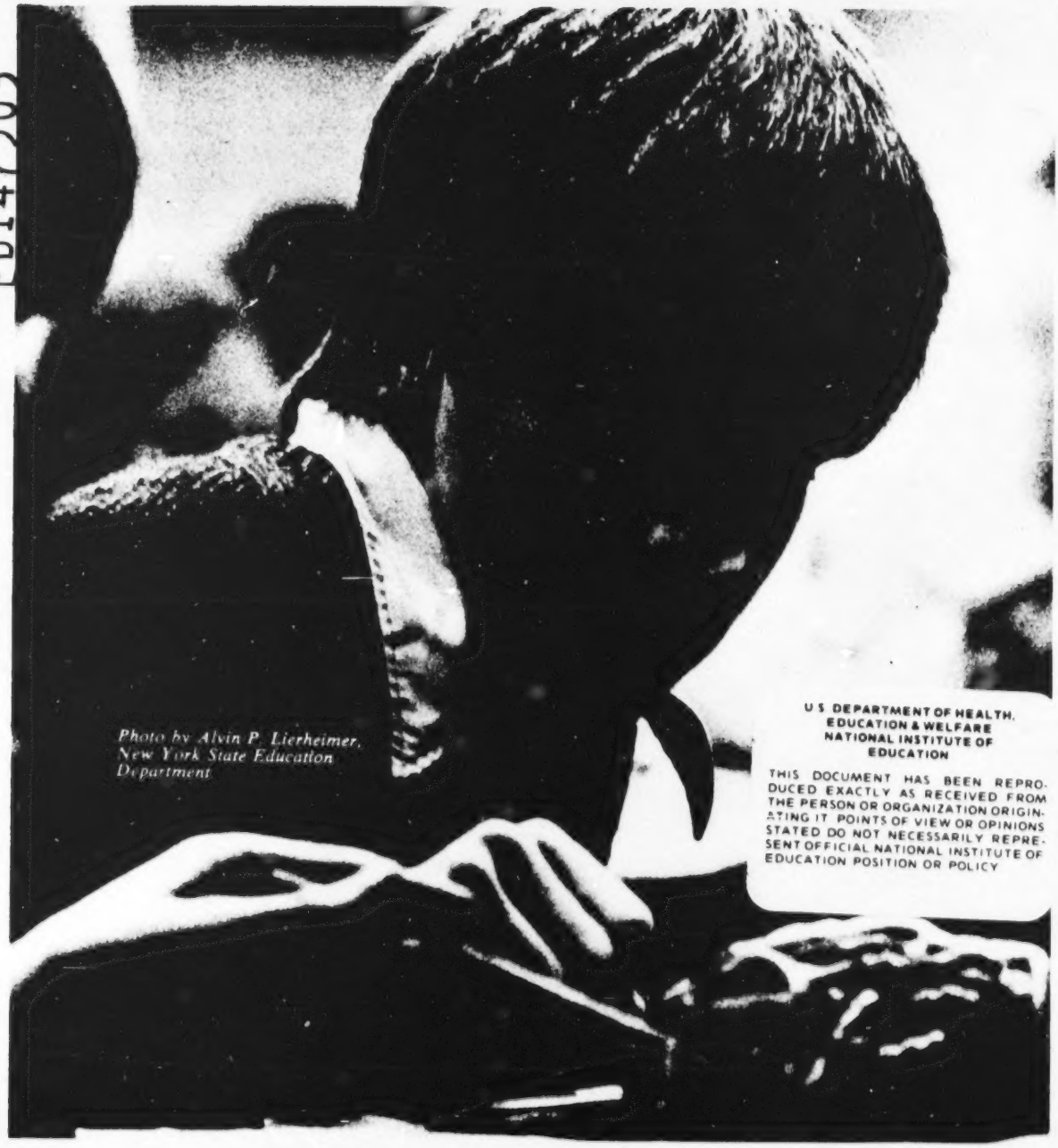

Photo by Alvin P. Lierheimer, New York State Education Department

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Making Health Education Relevant and Exciting

IN ELEMENTARY AND JUNIOR HIGH SCHOOL

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SP011 940

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Most major causes of death in this country could be prevented if the American public would change its smoking, drinking, eating, and exercising habits, according to the President's Committee on Health Education. But, says the Committee, little is being done in the schools toward teaching children how to care for their bodies in order to prevent disease.

The National Clearinghouse for Smoking and Health, a Division of the Center for Disease Control, Health Services and Mental Health Administration, may have an answer to that health education problem. For the past 6 years, the Clearinghouse has supported the development and spread of an unusual health curriculum project which has proved both exciting to teach and effective in motivating children toward good health practices.

The Elementary School Health Curriculum Project came into being primarily because of the concern of the Clearinghouse and educators across the nation for the growing number of youngsters who were starting to smoke. As the focal point of the Federal antismoking effort, the Clearinghouse program is directed in part to encouraging young people not to take up smoking. Surveys of teenagers made approximately every 2 years by the Clearinghouse indicate that the youth smoking problem is sizable. Every day about 3,200 youngsters between the ages of 12 and 18 take up smoking for the first time. This adds up to well over a million new smokers each year. Currently, there are probably some 4 million regular smokers in that age group.

In addition to these estimates of the young smoking population, the surveys have revealed two disturbing patterns. The first is that more girls are smoking today than in the past. Four years ago the proportion of teenage girls smoking was about half that of boys. Today there is little difference between the daily smoking rates of boys and girls aged 12–17. Among the 18-year-olds, the rate for girls reached about three-fourths that of the boys. Furthermore, both boys and girls appear to be taking up smoking at younger ages.

This trend toward greater cigarette use by teenagers is not really surprising. The climate has been prepared by an adult world that has long looked upon smoking as socially acceptable. The appurtenances of smoking—ashtrays and matches—conveniently provided virtually everywhere further reinforce the concept that it is quite proper to smoke. Advertising, and most particularly TV advertising, has played a major role in creating this atmosphere of acceptance. The current 12- to 18-year-olds have been exposed to the blandishments of the "tube" all their lives. Until cigarette advertising was banned from the airways in 1971, prime television time was supported largely by commercials for tobacco products which equated smoking with glamour, sophistication, companionship, and the good life. And to make it all the more believable, these youngsters have been surrounded by parents, older siblings, teachers, and even physicians and nurses who smoked. No wonder children have used cigarette smoking (or even the pretense of smoking with a stick or rolled-up piece of paper) as a device to appear older than their years or to impress their friends.

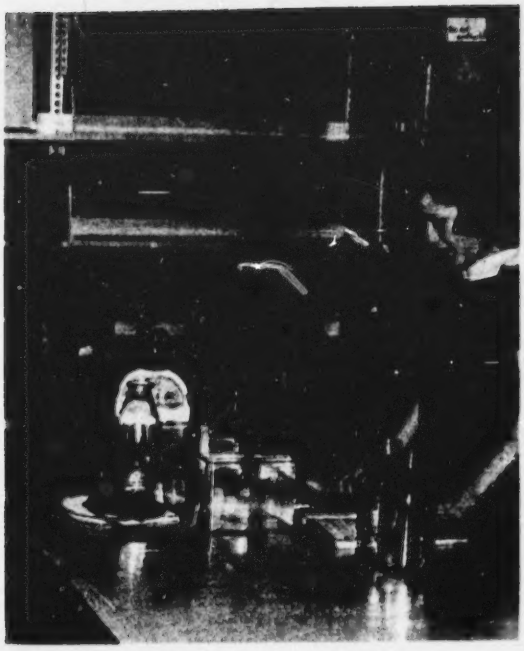
In this kind of environment, health education programs, even at their best, could hardly have much impact. And, unfortunately, such programs have too often been overly didactic, moralistic, and generally not relevant to the children's interest or experience. To add further complications, few teachers have had the kind of training that would prepare them to teach this kind of subject effectively.

Thus, to have any impact at all, two things were needed. First a curriculum had to be developed which would not only teach good health concepts in an exciting and stimulating way, but would help youngsters learn to make wise decisions about matters affecting their personal and community health. Second, a teacher training model had to be devised along with a national strategy to spread the training to teachers and other staff in school districts throughout the country. And, of course, to make the whole thing work, administrative, basic curriculum, and financial support had to be obtained.

Both the health curriculum model and the teacher training model were initially evolved under a Clearinghouse contract with the San Ramon Unified School District of California. Later, the

Sixth grader performs an organ dissection–photo by Alvin P. Lierheimer, New York State Education Department

Youngsters demonstrate properties of air to their classmates



project directors transferred to the Berkeley Unified School District where refinement of the model has continued. The curriculum consists of three intensive units of study, one each at the fifth, sixth, and seventh grade levels. Each unit is organized around a body system: lungs and respiratory system for the fifth grade, heart and circulatory system for the sixth grade, and brain and nervous system for the seventh grade.

Health Curriculum

Much of the strength of the health curriculum project comes from its use of a comprehensive and indepth approach, each unit taking 8–10 weeks for completion. The project does more than just teach the rudiments of bodily functions. All the units are built on a basic philosophy, and each contains specific student goals such as (*a*) self-enhancement and success for every child, (*b*) a depth of knowledge of body systems and functions which will enable the student to understand prevention of illness and to make his own decisions about proper health behavior, and (*c*) concentration on pupil interaction and the motivation of critical thinking processes.

The three units follow the same basic pattern. Using a "mystery box" or similar device to arouse the students' curiosity, the teacher introduces the unit with discussion of why it is important to study the lungs, heart, or brain. The basic subject matter is divided into four phases which cover (*a*) the relationship of each body system to the whole being, (*b*) the structure and function of the system, (*c*) the diseases to which it is subject, and (*d*) the prevention of these diseases.

A "culmination" phase ties the whole unit together and gives the children an opportunity to demonstrate what they have learned through a variety of creative activities. By the end of each unit the children have learned (*a*) the physiology of the various body systems, (*b*) how they can be affected by man's abuse of the environment, (*c*) how it is possible to abuse the body by individual actions such as smoking cigarettes, taking drugs, and overindulging in certain foods and alcohol, and (*d*) how to take care of this magnificent and intricate machine for maximum health.

All of this is accomplished with classroom activities which bring a special kind of excitement to learning. The emphasis is on student involvement both as individuals and through group or team activity. At one time the entire class may work together as a unit; at other times students work individually or in groups at stations which have a multitude of health resources. The resources include tapes, filmstrips, models, drawings, and other devices. By actually seeing, feeling, and dissecting animal lungs, hearts, brains, eyes, and

other tissues obtained from local slaughterhouses, the children get a better grasp of how the various organs function. In the process they also learn to use various scientific tools, such as microscopes, stethoscopes, and dissecting equipment.

All of the units are specifically correlated with other subjects in the curriculum such as art, music, mathematics, ecology, physical education, science, social studies, and basic language skills. Thus, throughout a unit the children have an opportunity to use all of their creative skills and talents. In addition to making their own models, drawings, or illustrations, the children write poems, essays, or skits. The children may also play the role of a panel of experts, demonstrating what they have learned by fielding questions from classmates, parents, and teachers. All senses are used in the project, and the children learn in their own way and in accord with their own backgrounds.

Involvement is an essential element in the success of the health curriculum project. This means not just the involvement of students and school personnel, but the active participation of resource persons from the community. The list of health professionals and representatives from related fields who have shared their expertise with the children is impressive. In one school, a surgeon joined the students and parents in dissecting animal tissues, while in another, a local physician provided stethoscopes to aid the children in studying their hearts.

Firemen and inhalation therapists have visited classes to demonstrate resuscitation techniques, later repeated by the students using homemade models. Representatives of blood banks have talked about the components of blood, radiologists have discussed X-ray and its uses, pharmacists have described the use and abuse of drugs, and veterinarians have demonstrated with live models how different animal species live and breathe.

A major contribution comes from the voluntary health and educational organizations which provide much of the printed matter and many of the films that are used in the project. The American Cancer Society, National Tuberculosis and Respiratory Disease Association, American Heart Association, American National Red Cross, the cerebral palsy and epilepsy foundations, and many other voluntary health associations have a wealth of material appropriate to the three areas of study.

The project involves parents and other members of the family. Initially, letters or other materials prepared by the students are sent home to acquaint parents with the project and its goals. As

Group experiments with lung function as boy mans air pump

the project moves along, parents are invited to join their children in the classroom and to participate in their work. Special "parents night" programs give the children additional opportunity to demonstrate their knowledge through skits and panels of "experts."

Teacher Training Model

All of this learning takes a great deal of planning and preparation. Before even one student is involved, the teachers who are going to work in the program have an intensive 2-week training session. The teachers must thoroughly understand the philosophy and goals of the course to learn to work with the methods and teaching materials. This training period involves more than just the classroom teachers, however. Each school sends a team which includes two classroom teachers, their principal, and one or two general support staff, such as school nurses, health educators, or curriculum specialists. Each team is prepared on the presentation of the unit appropriate to their level of teaching. In other words, one team is taught the lung unit, another the heart, and a third, the brain.

The idea behind the teacher training model is to first establish two successful classroom examples of each unit at its grade level in one school within a district. Subsequently, this team of trainees will work with their administrators to develop and conduct workshops to train other teachers in their district. Thus succeeding waves of teachers can be brought into the program, each group benefiting from the knowledge and experience of the first.

During their training period the teachers go through the paces of the curriculum model, familiarizing themselves with both the course content and the equipment they will be using. Any experiments and demonstrations the children will be expected to do, the teachers learn to do first. The training period also serves to review the basic philosophy of education, including behavioral change, instructional objectives in health, and teaching methods.

At the end of the 2-week session each team returns to its school equipped with teaching materials needed to implement the unit. What they take back represents a substantial health library: books, pamphlets, and other printed matter; audio tapes, films, and filmstrips, transparencies, photographic slides, and microscope slides; models of the body systems; and charts.

Each of the school district sites is visited regularly by members of project training staff. Their purpose is to monitor the effectiveness of the program and to determine the success of the original teams' efforts to spread the training model within their local school system.

Evaluations are made at a reconvening session held about 9 months after the training. The purpose of the session is to have the teams share with each other and with the project staff their year's experiences. They discuss and compare problems and recommendations, their students' responses, parent and community involvement, and plans for spread of the model in their respective school districts.

Project Effectiveness

If success is measured in terms of enthusiasm, interest, stimulation, and excitement, the health curriculum project scores 100 percent. Teachers who have participated almost universally laud the program as one of their most rewarding teacher training and classroom experiences. Evaluation procedures elicit such comments as teaching has become fresh and exciting, the program got me off my plateau, and teaching became more relevant and enriched through the use of the health curriculum model.

The effect on the children was equally rewarding. School became fun and exciting, according to reports from teachers and parents. The teachers reported better than ever class participation, even from children who had been loners or "difficult." Improvement in learning was noted both in the health unit and in other subject areas. One principal observed that the use of the library increased noticeably after the health curriculum unit was introduced into his school. The depth of understanding by all students participating in the project was described as astonishing.

The effect of the program can be measured in other ways. According to their teachers, the children's attitudes toward each other changed. Boys and girls not only worked better together, but began exhibiting more warmth and caring for one another. Some teachers noted an improved self-concept amongst the pupils.

Enthusiasm engendered by the project has remained high even after the individual units have been completed. The children are eager for a continuation of this kind of learning, while those who were not in the project classes want to know why they can't have the same experience. Most teachers indicated in followup evaluation that they had

incorporated these teaching methods into other subject areas.

Teachers at other grade levels have expressed a great interest in the methodology of the health model and its potential applicability to other areas. Use of the health curriculum model in more than 50 school districts indicates the project has generally received strong administrative support wherever it has been introduced. The same kind of excitement and commitment is being passed on to new teams by the teachers who have become trainers in the spread of the model.

Part of the spinoff from the project is that health as a curriculum subject is gaining new status. This was the first time that some of the teachers had related health habits to the teaching of the physiology of the human body. Other teachers reported that the program gave them greater awareness of community health resources which, in turn, has resulted in the further use of these resources in other education projects. One school nurse who was a member of the teaching team noted that the teachers accepted her as a colleague following this experience.

Perhaps one of the most satisfying outgrowths of the program is the interest and support it is receiving from the community and from the parents. Participating schools have found that local health professionals and other knowledgeable persons are generous with their time and willing to participate in classroom activities. Indeed, in some instances they have been so impressed by the children's knowledge and understanding that they have asked to come back to visit other classes.

Parents have reported that their youngsters bring home health information which they discuss with the whole family. Most consider the program the best learning experience the children have ever had, and many have asked specifically that their children be allowed to take subsequent units. Better work habits and more enthusiasm for school by the children have also been reported by parents who, in turn, have become more involved in school activities.

The health messages implicit in these units undoubtedly are impressing the children, as evidenced by their interest in their bodies and all the things pertinent to health care. The children are much more aware of the hazards of smoking, and, although it is impossible to predict how many will or will not smoke later, many have told teachers and parents that they do not intend to smoke cigarettes. Preliminary studies show lower smoking rates among youth who have had all three units.

What is more, these messages are reaching the home as well. Many parents in followup evaluations reported that they quit smoking at the insistence of their children, and others admit that they are uncomfortable about their habit. Even family friends have been impressed by discussions they have heard and have given up cigarettes. However, one father suggested that compassion be taught for the smoker with a 20-year habit.

Estimating how many children have had this health education experience is difficult. At least 26,000 were in classes taught by the first 24 teams. But the number is growing as the basic model is spread throughout the nation. Already the original pilot districts in five States have undertaken the second phase of the program and have launched training programs for other districts in their State. Six national training centers are currently funded and operating, and almost 50 new schools in separate new districts have been brought into the project. The training centers are located in San Mateo and El Cajon, Calif.; Seattle, Wash.; Delmar, N.Y.; Charleston, W. Va.; and Champaign, Ill.

Support and Interest

Centers and support for the new trainee districts are funded by several sources. Four agencies are receiving support from the National Clearinghouse for Smoking and Health, one from the New York State Department of Education, and one through funds from the National Institute on Alcohol Abuse and Alcoholism, Health Services and Mental Health Administration. The regional medical program in Maine has just granted support for a center next year. In addition, many school districts participating in the program are sharing the cost of their training and materials. Voluntary health agencies, regional medical programs, and Appalachia health and education programs are among the contributors of funds and supplies.

No attempt has been made to promote the program nationally, although local press and television have shown a great deal of interest. Despite this absence of publicity, teachers and administrators throughout the country have learned of the health curriculum model, frequently by word of mouth. Many of these persons have written to the Clearinghouse asking how they can become a part of this unusual teaching experience.